What is claimed:

1. A method for forming a ceramic body based on a solid solution of beta-spodumene, the method comprising:
   a. forming a plastic batch comprising inorganic raw material powders, organic additives, and a liquid component, wherein the inorganic raw material powders are composed of minerals selected to react and form a solid solution of beta-spodumene;
   b. shaping the plastic batch into a green fired structure; and,
   c. drying and firing the green structure for a time and a temperature sufficient to form a structure comprising predominately a beta-spodumene phase having a stoichiometry of 1:1:4 (LiO_2:Al_2O_3:SiO_2) to 1:1:11 (LiO_2:Al_2O_3:SiO_2).

2. The method of claim 1 wherein the minerals comprising the inorganic raw materials are sources of alumina, silica and lithium oxide.

3. The method of claim 2 wherein the mineral comprising the inorganic raw materials are selected from the group consisting of petalite, hydrous kaolin, calcined kaolin, alumina, lithium carbonate, silica, talc, magnesium oxide, magnesium carbonate, magnesium hydroxide, cobalt oxide, and mixtures thereof.

4. The method of claim 1 wherein the organic additives are selected from the group consisting of binder, lubricant, plasticizer, solvent, and mixtures thereof.

5. The method of claim 4 wherein the organic additives are a cellulose ether binder, and a lubricant selected from the group consisting of sodium stearate, stearic acid and oleic acid.

6. The method of claim 5 wherein the mixture comprises based on 100% by weight minerals, 2-10% cellulose ether binder, 0.2-2% lubricant selected from the group consisting of sodium stearate, stearic acid and oleic acid, and 20-35% by weight water as the liquid component.

7. The method of claim 1 wherein the shaping of the plastic batch is done by extrusion.

8. The method of claim 9 wherein the plastic batch is shaped into a honeycomb structure with an inlet end, an outlet end, and a multiplicity of cells extending from the inlet end to the outlet end, the cells being formed by a plurality of porous walls.

9. The method of claim 1 wherein the firing is done at 1200°-1300°C for a period of 2-20 hours.

10. The method of claim 1 wherein a component selected from the group consisting of magnesium oxide (MgO), manganese oxide (MnO), and cobalt oxide (CoO) is substituted for lithium oxide (LiO_2) at 10 to 65 mole %.

11. The method of claim 10 wherein a component selected from the group consisting of magnesium oxide (MgO), manganese oxide (MnO), and cobalt oxide (CoO) is substituted for lithium oxide (LiO_2) at 25 to 50 mole %.

12. The method of claim 11 wherein the structure further comprises a minor phase of mullite ($3Al_2O_3$-$2SiO_2$) in an amount of up to 50% by weight.

13. A ceramic article comprising predominantly a solid-solution of beta-spodumene ranging in molar ratio from 1:1:4 LiO_2-Al_2O_3-SiO_2 to 1:1:11 LiO_2-Al_2O_3-SiO_2 wherein a component selected from the group consisting of magnesium oxide (MgO), manganese oxide (MnO), and cobalt oxide (CoO) is substituted for lithium oxide (LiO_2) at 10 to 65 mole %.

14. The ceramic article of claim 13 wherein a component selected from the group consisting of magnesium oxide (MgO), manganese oxide (MnO), and cobalt oxide (CoO) is substituted for lithium oxide (LiO_2) at 25 to 50 mole %.

15. The ceramic article of claim 13 further comprising a minor phase of mullite ($3Al_2O_3$-$2SiO_2$) in an amount of up to 50% by weight.

16. The ceramic article of claim 13 exhibiting a coefficient of thermal expansion (22°-800°C) of less than 20×10^{-7}/°C.

17. The ceramic article of claim 16 exhibiting a coefficient of thermal expansion (22°-800°C) of less than 10×10^{-7}/°C.

18. The ceramic article of claim 17 exhibiting a coefficient of thermal expansion (22°-800°C) of less than $5 \times 10^{-7}/°C$.

19. The ceramic article of claim 13 exhibiting a modulus of rupture as measured on a solid rod of circular cross-section, of greater than 3000 psi.

20. The ceramic article of claim 19 exhibiting a modulus of rupture as measured on a solid rod of circular cross-section, of greater than 6000 psi.

21. The ceramic article of claim 20 exhibiting a modulus of rupture as measured on a solid rod of circular cross-section, of greater than 10000 psi.

22. The ceramic article of claim 13 exhibiting a porosity greater than 20% by volume and up to 60% by volume.

23. The ceramic article of claim 23 exhibiting a porosity greater than 30% by volume and up to 50% by volume.

24. The ceramic article of claim 24 exhibiting a porosity greater than 35% by volume and up to 45% by volume.